

REMARKS

In the Office Action, claims 1-25 are rejected under 35 U.S.C. §103. Claims 1, 3, 8, 10, 12, 14, 20 and 25 have been amended. Applicants believe that the obviousness rejections have been overcome as detailed below.

Claims 1, 3, 4, 8, 14-17, 19 and 20 are rejected as unpatentable over PCT Publication No. WO 98/21953 to Nash et al. (“*Nash*”). The Patent Office alleges that *Nash* on its own renders obvious the claimed invention as defined by these claims. Applicants believe that *Nash* is distinguishable from the claimed invention for a number of reasons.

Of Claims 1, 3, 4, 8, 14-17, 19 and 20, Claims 1, 3, 8, 14, and 20 are the sole independent claims. Claims 1, 3, 8, 14, and 20 have been amended to include a ferric-caseinate complex obtainable by, among other elements, dissolving ferric sulfate in an aqueous liquid to provide a ferric solution. Support for these amendments can be found in the Specification at, for example, page 4, line 35 through page 5, line 2. Therefore, no new matter is added by these amendments.

Nash fails to teach or suggest a ferric-caseinate complex obtainable by dissolving ferric sulfate in an aqueous liquid to provide a ferric solution as required by the claimed invention. Not only does *Nash* disclose the use of a completely different source of iron in a nutritional supplement, but *Nash* teaches away from the use of ferric sulfate in the nutritional supplement. *Nash* requires the use of ferric ortho-phosphate as a source of iron as well as a stabilizer, such as kappa-carrageenan, to keep the ferric ortho-phosphate compound in suspension. Moreover, *Nash* teaches that, unlike ferric ortho-phosphate, ferrous sulfate causes the liquid nutritional supplement to turn gray during continuous thermal processing at ultra-high temperatures. *Nash* goes on to suggest that the formation of iron sulfide during ultra-high temperature processing causes this discoloration that makes the liquid nutritional supplement less appealing to the intended consumer and may require the use of strong colorings in order to mask the discoloration that causes this discoloration. *Nash*, page 11, lines 18-30. This is the problem solved by the present invention as provided in the Specification at, for example, page 4, line 35 through page 5, line 2. Therefore, *Nash* fails to teach or suggest a ferric-caseinate complex obtainable by dissolving ferric sulfate in an aqueous liquid to provide a ferric solution as required by the claimed invention.

For at least these reasons, Applicants believe that *Nash* is distinguishable from the claimed invention and, thus, respectfully submit that *Nash* on its own fails to render obvious the claimed invention.

Claims 5-7, 9, 10, 13, and 22 are rejected as being unpatentable over *Nash* and further in view of U.S. Statutory Invention Registration No. H1620 to Dolan et al. (“*Dolan*”) and Myers et al. (“*Myers*”). With respect to claims 5-7, 9, 10, 13, and 22, the Patent Office alleges that *Nash* in combination with *Dolan* and *Myers* renders obvious the claimed invention as defined by these claims. Applicants believe that this rejection is improper based on at least the reasons set forth below.

Of Claims 5-7, 9, 10, 13, and 22, Claim 10 is the sole independent claim. Claim 10 recites a retorted liquid beverage that contains polyphenols and a stable iron fortification system. Claim 10 has been amended to include a ferric-caseinate complex obtainable by, among other elements, dissolving ferric sulfate in an aqueous liquid to provide a ferric solution. Support for this amendment can be found in the Specification at, for example, page 4, line 35 through page 5, line 2. Therefore, no new matter is added by this amendment.

As discussed above, *Nash* fails to teach or suggest a ferric-caseinate complex obtainable by dissolving ferric sulfate in an aqueous liquid to provide a ferric solution as required by the claimed invention. Further, Applicants respectfully submit that *Dolan* and *Myers* fail to remedy the deficiencies of *Nash*. Indeed, the Patent Office merely relies on *Dolan* for its alleged teaching regarding a chocolate flavored beverage mix that contains iron and on *Myers* et al. for its alleged teaching that chocolate is known to contain polyphenols. Therefore, *Nash*, in combination with *Dolan* and *Myers*, fails to teach or suggest a ferric-caseinate complex obtainable by dissolving ferric sulfate in an aqueous liquid to provide a ferric solution as required by the claimed invention. Therefore, Applicants do not believe that *Nash*, *Dolan* and *Myers*, even if combinable, can be properly modified to cover the claimed invention, and, thus, this rejection should be withdrawn.

Claims 2, 12, and 18 are rejected as being unpatentable over *Dolan* in view of PCT Publication No. WO 98/42745 to Sakurai et al. (“*Sakurai*”) and U.S. Patent No. 4,303,580 to Hidalgo et al. (“*Hidalgo*”). With respect to claims 2, 12, and 18, the Patent Office alleges that *Dolan* in view of *Sakurai* and *Hidalgo* renders obvious the claimed invention. Applicants

believe that *Dolan*, *Sakurai* and *Hidalgo*, even if combinable, are distinguishable from the claimed invention.

Of Claims 2, 12, and 18, Claim 12 is the sole independent claim. Claim 12 recites a beverage powder which contains lipid and an iron fortification system. Claim 12 has been amended to include a ferric-caseinate complex obtainable by, among other elements, dissolving ferric sulfate in an aqueous liquid to provide a ferric solution. Support for this amendment can be found in the Specification at, for example, page 4, line 35 through page 5, line 2. Therefore, no new matter is added by this amendment.

The Patent Office admits that *Dolan* fails to describe an iron fortification system, let alone an iron fortification system that includes a ferric-caseinate complex as in Claim 12 of the claimed invention. *Dolan* merely describes a flavored chocolate beverage mix, particularly a dry beverage mix that contains a number of ingredients, such as cocoa, protein and additional nutritional supplemental amounts of vitamins and minerals. See, *Dolan*, Abstract. Thus, *Dolan* on its own is clearly distinguishable from the claimed invention.

To allegedly cure the deficiencies of *Dolan*, the Patent Office has improperly relied on the combination of *Sakurai* and *Hidalgo*. Both references, however, fail to teach or suggest the ferric-caseinate complex of Claim 12. Indeed, *Hidalgo* discloses complexes other than the ferric-caseinate complex of Claim 12. For example, the oligo-element caseinate complex disclosed in *Hidalgo* includes calcium and nitrogen in addition to iron. *Hidalgo*, Example 6. Furthermore, *Hidalgo* fails to disclose the ferric oxidative state of iron as claimed. In fact, *Hidalgo* states that just because the oligo-element, such as iron, is in a certain state of oxidation to begin with, does not necessarily mean that it ends up in the caseinate exclusively in this same state of oxidation. *Hidalgo*, column 1, line 64 through column 2, line 3.

Moreover, the Specification at, for example, page 4, lines 22-29 provides concrete evidence of an unobvious difference between *Hidalgo* and the present invention. For example, the complex of the claimed invention is obtained by a specific process that includes combining a ferric salt and a casein solution at specific pH values such that effectively no ferric hydroxide is produced and no caseinate is precipitated. Surprisingly, the resulting complex has a reduced ability to cause deleterious effects, such as lipid oxidation, color degradation, and vitamin C degradation. This makes the complex an ideal vehicle for fortifying foods and beverages.

Hidalgo, on the other hand, fails to disclose a product that exhibits these unexpected properties. The Board of Appeals in *Ex parte Gray*, 10 USPQ2d 1922 (Bd. Pat. App. & Inter. 1989) emphasized that an unobvious difference between the claimed product and the prior art product is established if the claimed complex exhibits any unexpected properties compared with the product disclosed by the prior art. Therefore, *Hidalgo* fails to teach or suggest the ferric-caseinate complex of Claim 12, and, thus, the obviousness rejection should be withdrawn for at least these reasons.

Moreover, Applicants do not believe that the Patent Office can rely solely on *Sakurai* to remedy the deficiencies of *Dolan* and *Hidalgo*. As in *Hidalgo*, *Sakurai* discloses complexes other than the ferric-caseinate complex of Claim 12. *Sakurai*, for example discloses carbonic acid-iron-casein complexes and/or hydrogencarbonic acid-iron-casein complexes. *Sakurai*, column 1, line 66 through column 2, line 3. According to *Sakurai*, the carbonic or hydrogencarbonic acid is used to prevent the formation of iron hydroxides by the release of iron from otherwise weak iron/casein binding. *Sakurai*, column 1, lines 51-53. Therefore, even *Sakurai* distinguishes carbonic acid-iron-casein complexes and/or hydrogencarbonic acid-iron-casein complexes from the ferric-caseinate complex of the claimed invention. In addition, unlike the ferric-caseinate complex of Claim 12, *Sakurai* requires the combination of carbonic or hydrogencarbonic acid to form the complex disclosed in *Sakurai*. Accordingly, *Sakurai* fails to teach or suggest the ferric-caseinate complex of Claim 12, and, thus, the obviousness rejection should be withdrawn for at least these reasons.

Therefore, even if combinable, Applicants respectfully submit that one skilled in the art would not have been inclined to modify the cited art to arrive at the claimed invention.

Based on at least these reasons, Applicants believe that the cited art fails to disclose or suggest the claimed invention. Therefore, Applicants respectfully submit that the cited art, even if combinable, fails to render obvious the claimed invention. Accordingly, Applicants respectfully request that the obviousness rejection in view of *Dolan*, *Hidalgo* and *Sakurai* be withdrawn.

For the foregoing reasons, Applicants respectfully submit that the present application is in condition for allowance and earnestly solicit reconsideration of same.

Respectfully submitted,

BELL, BOYD & LLOYD LLC

BY _____

Robert M. Barrett
Reg. No. 30,142
P.O. Box 1135
Chicago, Illinois 60690-1135
Phone: (312) 807-4204

Dated: March 8, 2005